PERFORMANCE IMPROVEMENT IN AN ACCOUNTING FIRM: COMPARING OPERATIONAL AND FINANCIAL DATA BEFORE AND AFTER PROCESS REDESIGN

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Thesis Prepared for the Degree of

MASTER OF SCIENCE

UNIVERSITY OF NORTH TEXAS

December, 2000

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Chhabra, Meeta Kaur, Performance Improvement in an Accounting Firm: Comparing Operational and Financial Data Before and After Process Redesign. Master of Science (Behavior Analysis), December 2000, 65 pp., 1 table, 9 illustrations, references, 26 titles.

The case study described in this thesis involves a process improvement project in the Tax Department of a Certified Public Accounting firm. A process map was created by interviewing employees involved in the process. A process analysis identified problems and possible solutions. The Partners in the firm decided to streamline the process for simple tax returns in order to make them more profitable. This study examined what impact, if any, the process improvement intervention had on key financial and operational measures. Results indicated that the tax returns prepared in the new process were faster, cheaper, and more profitable. This study indicates that organizations conducting process improvement interventions can beneficially affect key financial and operational measures.

ACKNOWLEDGMENTS

I would like to begin by thanking my major professor, Dr. Cloyd Hyten, for his commitment throughout the thesis process, all the lessons he has taught me, and his incredible attention to detail. I would also like to thank my committee members, Dr. Janet Ellis, for always telling it like it is and having my best interests at heart, and Dr. Jesus Rosales-Ruiz for his unique perspective of behavior analysis. Bellann Morales has also played an integral role in the completion of my thesis, so I would like to express my gratitude for her time, attention, and for always accommodating me and my questions into her very busy life. I want to take this time to thank my friend and colleague, Melanie Porter, for her sound personal and professional advice. I would also like to thank Sharon Dumas for her unique emotional and administrative support during my time in graduate school. Additionally, I would like to commend the rest of the faculty, staff, and students in the Department of Behavior Analysis; it has been a privilege to work with and learn from such a fine group of people. Finally, I would like to thank my parents, Sujan and Jasbeer, my brother Arvind, and my sister Neeta for their unyielding love, support, and compassion throughout my life and especially during graduate school.

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CHAPTER 1

INTRODUCTION

Performance improvement is a constant concern for most organizations. With the ever-increasing demands of customers and competition in the marketplace, organizations must address the issue of performance improvement in order to survive. Whether it is to increase desired performance, decrease undesired performance, or train new performance, every organization is forced to deal with this issue in one form or another. Performance improvement specialists have been developing models and tools to help organizations deal with performance issues for the last several decades (see Stolovitch & Keeps, 1992).

The performance improvement area has received attention from both consultants (e.g., Dean & Ripley, 1998; Gilbert, 1996; Mager & Pipe, 1984; Malott, 1999; Panza, 1989, 1998; Robinson & Robinson, 1995; Rummler & Brache, 1995) and behavioral researchers (e.g., Huberman & O'Brien, 1999; Jessup & Stahelski, 1999; LaFleur & Hyten, 1995; Langeland, Johnson, & Mawhinney, 1998; Wilk & Redmon, 1998). Models of performance improvement have helped consultants and their clients assess and identify performance issues, develop solutions, and implement performance improvement plans. One influential model is the Behavior Engineering Model (Gilbert, 1978/1996). The model consists of six cells that take into account all the environmental and personal factors that can influence performance. This includes the performer's environment and repertory of behavior. Environmental supports include direction (e.g., feedback, job

descriptions, and job aids), resources (e.g., tools and materials), and contingencies (e.g., performance contingent pay, nonmonetary incentives, and career development). Factors affecting a person's repertory of behavior include knowledge (e.g., proper training), capacity (e.g., tailoring workload to the individual performer), and motives (e.g., recruiting workers whose interests match what the organization can offer).

Behavior analytic researchers have used behavioral models, principles, and techniques to improve performance (see Frederiksen, 1982; O'Brien, Dickinson, & Roscow, 1982; Redmon & Dickinson, 1990). For example, LaFleur and Hyten (1995) used Gilbert's model to help them analyze the causes of performance problems with a hotel's banquet staff. They used task checklists, feedback, goal setting, monetary bonuses, training, and job aids to increase the accuracy and timeliness of meeting room preparation. Jessup and Stahelski (1999) used goal setting, feedback, and incentives to decrease the rate of defective anodes in a manufacturing plant. Huberman and O'Brien (1999) employed goal setting, feedback, and reinforcement with therapists and patients in a psychiatric group home. The researchers were successful at enhancing the performance of the therapists and improving patients' welfare.

Some academics and consultants use systems models of organizations in which the organization is viewed horizontally as a set of cross-functional processes, instead of vertically as a set of hierarchical job titles. This horizontal systems view includes the internal and external customers, products or services, and the processes through which work gets done (Brethower, 1982; Malott, 1999; Panza, 1989; Rummler & Brache, 1995). Systems models help identify key accomplishments and the work processes that

produce them throughout an entire organization or within an organizational unit (units such as departments or divisions are often called functions in these models).

One intervention derived from systems models is process improvement. Central to this approach for improving performance is process analysis and redesign. “A business process is a series of steps designed to produce a product or service. Some processes (such as programming) may be contained wholly within a function. However, most processes (such as order fulfillment) are cross-functional, spanning the ‘white space’ between the boxes on the organization chart” (Rummler & Brache, 1995, p. 45). Rummler and Brache indicate the most promising opportunities for performance improvement can be identified at the “functional interfaces” or “white space” where information, products, and/or services are being handed off from one department (function) to another. It is often in the midst of this “white space” that processes fall apart; however, these interfaces can be identified and successfully managed through process analysis.

Rummler and Brache (1995) have developed an intricate methodology for carrying out this multi-layered process analysis in organizations, and it consists of five clearly outlined stages. The five stages are performance improvement planning, project definition, process analysis and design, and implementing the new process. The first stage concentrates on obtaining all the pertinent information such as the organization’s strategy, as well as the primary, support, and management processes. Primary processes are those that produce key products or services that external customers will receive, while support processes produce products or services that are invisible to the external customer but are essential to effectively manage the business. Management processes are the steps

that management must take to support business processes. The second stage involves identifying the variables necessary for superior performance within the industry, determining which processes, if improved, will have the most significant impact, and designating teams of people who will execute the different steps in the plan.

The third stage involves documenting the process. One way of doing this is to create a process map, which is a schematic display of all the steps involved in getting work done. An "Is" process map represents the current steps involved in getting work done; whereas, a "Should" process map outlines the revised steps of an improved process (Rummler & Brache, 1995). Sometimes the disparity between an "Is" map and a "Should" map is large due to the number of disconnects in the "Is" map. A disconnect is anything that interferes with the flow of work (e.g., redundant steps, missing steps, or steps that cause major problems that affect the quality, quantity, timeliness, or cost of work).

The fourth and final step of the Rummler and Brache methodology involves assessing the organization's readiness for the implementation of the process improvement ideas. In this stage, new processes are often pilot-tested before wide-scale implementation is undertaken.

Rummler and Brache (1995) reported that they employed this methodology and achieved desired results in a number of organizations such as Douglas Aircraft Company (a division of McDonnell Douglas Corporation) and GTE. They helped Douglas Aircraft Company design and implement a company-wide performance improvement project. The project was centered on the company's desire to improve customer service through higher quality products. After conducting the first two stages, they created a customer-

driven “Should” process map. They compared “Should” and “Is” maps to identify any performance gaps. The team planned and implemented the steps necessary to move from the “Is” to the “Should” process. Unfortunately, as with many non-academic consultants, case studies are cited, however, little data is presented to document the exact nature of the improvement.

Carol Panza, another consultant, has also used process improvement to address her clients’ needs. Her methodology is similar to Rummler and Brache; in fact, she used to be affiliated with the Rummler Group. Panza (1998) conducted a study that took place in National Vision Associates, Limited, which is a retail eye wear/eye care chain that operates within large multidepartment chains versus stand-alone outlets. This company had grown from 4 to over 300 vision centers within a short period of time. Because of this rapid growth, standardized operating procedures were never created. Panza was called in to develop the specifications for a learning system that would allow the company to train new employees entering the organization and then move them into vision center management, which would support planned growth. Previous data showed that individual store performance was inconsistent and depended on the quality of the market area, managers, and/or district managers to whom individual vision centers reported. With no company standard for getting work done, managers and district managers were creating individual processes for their respective stores. Because the processes were inconsistent across stores, it was difficult to make data comparisons between existing stores and to get new stores up-to-speed in a timely manner. This lack of standard processes also created opportunity for improvements in existing stores.

Panza's "process level" analysis examined the sequence of accomplishments required to produce a valuable product or service. The end product of this analysis was a process map outlining the necessary accomplishments to be performed by management-level employees. This differed from a traditional Rummler and Brache "Is" map in that it did not outline the steps necessary to carry out the accomplishments. Another product of the Panza process analysis was the roles matrix, which was "used to match job or role accomplishment to specific processes (e.g., field sales, customer service, etc.) and identify any performance issues"(Panza, 1998, p. 59). However, Panza did not include an example, so the exact nature of this tool is not known. A "position level analysis" identified environmental variables that need to be in place to support performers in the organization.

When the whole assessment was completed, Panza created "performance support summaries" which outlined the accomplishments that must be executed by the specific job level and the required behaviors for achieving these accomplishments. These summaries helped the organization create well-defined job descriptions and selection criteria. Skills were taught in phases with some being taught through on-the-job-training and others in a classroom environment that used job aids. For example, customer call-back training was carried out through on-the-job training while managing the merchandising and promotions calendar was trained in a classroom setting. Panza also identified feedback requirements and suggested where incentives were appropriate. The results of this project showed that the audit scores of store managers who went through training increased from 55% to 80%. Scores reflected administrative performance in managing finances, legal issues, and inventory. The average number of

customer complaints per store decreased from 12 to 5 while the number of stores increased from 310 to 341 during the same time period. Results also indicated that there was a decrease in the number of improper orders placed. Some evidence showed that turnover decreased amongst the managers trained in the learning system. Informal measures indicated that the store culture has changed to one in which all employees actively work towards store success.

In some business circles, Hammer and Champy (1993) are viewed as pioneers of process reengineering. According to them, "reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed" (Hammer & Champy, 1993, p. 32). However, they do not have a strict assessment methodology. "The bad news about redesigning a work process is that it is not algorithmic and routine. There are no seven- or ten-step procedures that will mechanically produce a radical new process design" (Hammer & Champy, 1993, p. 134). The only step that is standard in their procedure is to start with a blank slate or a clean sheet of paper. The danger in their methodology is that it runs the risk of reengineering processes that do not need to be reengineered. They themselves have said, "reengineering ignores what is and concentrates on what should be" (Hammer & Champy, 1993, p. 33). "Reengineering is about business reinvention—not business improvement, business enhancement, or business modification" (p. 33). Some processes are perfectly suited to achieve the result needed while other processes only need slight modifications. A company could lose significant amounts of time and money by

prematurely conducting a process reengineering effort without first determining the performance of current processes and comparing this with desired processes.

Hammer and Champy's proposed methodology may seem drastic, but it has yielded desired results. They cited an example in which the IBM Credit Corporation applied their methods to improve the credit approval process. IBM estimated that average turnaround time for a credit approval was 6 days. The "Is" process started when a sales representative submitted a credit approval to IBM's Credit Corporation and ended 6 days and 7 people later at which time an administrator took all the relevant information and sent a final answer to the sales representative via overnight mail. The "Should" process consisted of the same general steps; however, one person carried out each step and had access to all the information the previous people in the process used. In the end, they reduced turnaround time by 90% (from 6 days to 4 hours) and the number of customers who accepted IBM's credit deal increased by 100 times.

The problem with Hammer and Champy's methodology (1993) is that they have not outlined their procedure in any of these examples. For example, they do not explain how they come to know the "Is" process in any of these organizations. They also do not explain how or if they conduct any kind of initial performance assessment. Adhering to Rummler and Brache or Panza's methodology takes away a lot of the risk inherent in the Hammer and Champy style of process redesign.

Some researchers (e.g., Kumar & Motwani, 1999) have proposed process improvement projects but have not actually carried them out, so they provide no quantitative data on actual results. Kumar and Motwani (1999) proposed a process reengineering plan in a midwestern bank. The bank was having problems with its

lending procedure for small businesses. The proposed plan was based on best practices of other banks. Data collection methods included interviews, direct observations, and gathering information through archival sources. To determine the steps involved in the lending process, interviews were conducted with executives who knew the process. Interviews were conducted in person and lasted from 40 min to 2 hr. Direct observations were made of employees (management and non-management) from the different departments that participated in the process. Unstructured interviews also took place with some employees during the direct observations. The "Is" process consisted of five stages: origination, underwriting, document preparation, loan closing, and loan booking.

Most of the problems identified during the assessment consisted of timeliness and efficiency issues. Instead of the process meeting a 2-day turnaround, it was usually taking 1-2 weeks. A large part of this time was due to interoffice mail. When one phase of the process was complete, it usually required passing paperwork from one person to another or requesting paperwork be filed from one person to another. The mechanism for transferring the paperwork or requests was interoffice mail, which usually took at least 1 day. Also, some of the requisite paperwork asked for the same basic information (company name, address, and loan terms) in addition to differing information. Only a small percentage of the business loans the bank processed were for small businesses, so they did not have any standard loan products for small business loans. This meant that each loan officer had to reconstruct new terms and conditions for each small business loan they accepted. This proved to be a de-motivating contingency because loan officers preferred working on large business loans, which were more profitable. This caused loan officers to put a lower priority on small business loans. The proposed new process

eliminated some unnecessary paperwork, combined a few steps, and reduced the number of people working on a loan. Kumar and Motwani (1999) proposed buying workgroup software so that forms and requests could be submitted electronically. This would eliminate the interoffice mail lag times. In addition to the process change, they also proposed creating job tools such as checklists, and standardized forms and providing training to the Branch Managers on all the particulars of small business lending practices. The researchers also recommended advertising and marketing ideas to promote the new improved process and extra services being offered to small businesses. Suggestions included direct mail fliers and telemarketing.

Kumar and Motwani (1999) suggested that future results data would indicate bottom-line savings, increase productivity, decrease costs (due to decreases in turnaround time), and standardize work papers. After the proposed process is implemented, the authors expected that customers would receive loan request answers within 24 hrs with the new automated documentation system, and that underwriters and branch managers would have instant access to all customer information.

Hayes and Helms (1999) documented a process improvement case study with actual data, but their methodology is unclear and it is not apparent what role, if any, the researchers played in the project. The case study took place in a utility company. In the midst of rapidly increasing competition, the utility company in this study was having problems with the turnaround time for new installations. A new order had to pass through four departments before installation was final which required an average of 48 days from start to finish. After creating an “Is” map, a team was formed to address problems in the process. The team was made up of one representative from each department and three

from the construction department because it was involved in one of the most complicated parts of the process. After brainstorming on possible solutions, the team decided to implement the quickest idea because they were under a time constraint. The simple idea consisted of renting new equipment. The new equipment reduced cycle time, but not significantly enough to satisfy the team. A second, smaller team was created to brainstorm. This team decided to eliminate some steps by installing an automated tracking system. Up to that point, nobody knew when a new service request entered the system and went from one department to another. This yielded improvements in reporting and communication to each department, but it had no effect on turnaround time. The team re-assembled and decided to restructure the construction department, which was responsible for a large proportion of the work completed in the process. The construction department was structured so that every job came to a scheduler who then dispersed the work (up to 100 orders per week) to 5 areas consisting of 43 different crews. They eliminated the scheduler, assigned one supervisor to each of the 5 areas and divided the crews into each area (10-11 crews per area). Scheduling orders became the supervisors' responsibility thus eliminating a bottleneck in the process. By restructuring the construction department, the process became more streamlined. As a result, cycle time decreased from 14 to 4.8 days.

Malott (1999) has employed process improvement techniques, using a methodology similar to Rummler and Brache (1995), but has not published any case studies that include quantitative results. Other researchers have also investigated or documented process redesign projects, but either they do not have a clear methodology, quantitative results, or both (see Coulson-Thomas, 1997; Denton, 1995; Nwabueze & Kanji, 1997;

Webster & Black, 1998). Because much of the literature on process improvement is unclear in describing either methodology or quantitative results, replications of this technique are difficult. Process improvement studies that could provide quantitative data on the results of the intervention would be especially valuable to the research community.

The case study described in this thesis involves a process improvement project in the Tax Department of a Certified Professional Accounting (C.P.A.) firm. This organization is a professional service firm that operates on a time and billing system. Their product is not only a complete tax return, but also, how much billable time is produced and how much of the time is billed to the client. Anyone doing any work on a tax job accumulates charge hours according to an hourly rate designated for each employee. Managers in the firm were concerned that certain kinds of work done in the Tax Department were accumulating charge hours that could not be billed to the client because that amount would exceed what the client considered a fair price for such work. The managers requested an assessment of their process and ideas for process improvement. Ultimately, a process improvement plan was implemented.

This study examined what impact, if any, the process improvement intervention had on key financial and operational measures for the Tax Department. This process redesign project focused mainly on within-department processes, i.e., how tax returns were completed by the employees at several levels in the Tax Department. This is a smaller scale application of process improvement than the organization-wide, cross-functional process improvements described by Rummler and Brache (1995). However, a within-department process focus is appropriate in this case because the Tax Department

functions in a very independent fashion in this firm. The study will include a detailed methodology and quantitative results.

CHAPTER 2

METHOD

Employees and Setting

The study took place in the Tax Department at an accounting firm in Dallas, Texas. The accounting firm employed approximately 85 employees in 7 departments (Tax, Audit, Accounting Services, Compensation & Benefits, Consulting, Resources & Operations Management, and Administrative). The Tax Department was one of the largest departments in the company and generated a high volume of projects and profits. Because of the volume of work generated by the Tax Department, the Partners (who were both owners and top management) were able to sell other services offered by the accounting firm to tax clients. Twenty-one Tax Department employees participated in this study in 1999 and 22 participated in 2000. In 2000, the department lost 4 employees from 1999 (2 Staff, 1 Senior, and 1 Senior Manager) and gained 5 new employees. There were 3 Senior Managers, 4 Managers, 9 Seniors, and 5 Staff in 1999. In 2000, there were 2 Senior Managers, 4 Managers, 11 Seniors, and 5 Staff. Employees will be referred to according to their job title (e.g., Manager, Staff, etc…) and their function. Employees functioned in two roles in the Tax Department. Preparers were any employee (e.g. Senior Manager) who worked on preparing a tax return. Reviewers were any employee who worked on reviewing a tax return. Full-time employees were salaried, while part-time employees earned an hourly wage.

Procedure

Nature of the problem. In June of 1999, the Chief Financial Officer of the accounting firm requested a process assessment in the Tax Department. Prior to this study, the department was experiencing some timeliness and quality problems. Timeliness issues included not meeting a 30-day standard for all clients during peak tax season, and exceeding a 2-week turnaround standard for preparations. Quality of work issues included a time budgeting of projects that encouraged speed over quality, and Tax Preparers making too many mistakes, thus requiring extensive review of their work. The Tax Partners were particularly concerned with the perceived inefficiency of the tax return process. They believed that improved efficiency could increase profitability. This was a major concern for them because processing tax returns made up 97% of the work in this department. The Tax Department was also the largest department in the company and generated a high volume of business, so problems in this area would have a major impact on the organization as a whole.

Assessment. The assessment was conducted via formal interviews with Partners, Managers, and Senior employees in the Tax Department. Each interview was held in a conference room and took place with two interviewers (Dr. Cloyd Hyten and me) and one employee at a time. Each interview lasted between 1 and 1-½ hrs. Interviewers developed a set of questions to determine what happens from the time work is assigned to the time the final product is sent to the client (see Appendix A). The questions were used with all interviewees; however, every question was not used in every interview. The questions asked depended on the tasks performed by the interviewee. For example, Staff were not asked questions pertaining to how Reviewers check projects because Staff never

conducted reviews. The questions were designed to determine all the steps involved in getting work done in that department and to discover any inconsistencies or other problems in the process across employees. When inconsistencies were discovered, employees were asked additional questions to determine if there was a decision rule involved in that part of the process. For example, some employees prioritized work differently. After asking additional questions, it became apparent that the decision rule in this case depended on the order of work coming in, deadlines, whether or not a Partner requested it, existing workload, and the nature of the task. A problem area that was identified involved retrieving information from Partners. Some Partners took days to get answers back to employees. This could cause timeliness problems in the process.

Process map. An "Is" process map was created based on all the information collected during the interviews (see Appendix A). The process map was categorized into the five stages of the tax return process: client requests, work assignment, preparation, review, and final processing. Each stage was made up of one or more steps. As previously mentioned, all of the steps in the process were executed by all levels of employees (Partners, Senior Managers, Managers, Seniors, and Staff); however, to simplify this explanation, we will refer to the employees by the function they were executing. Again, Preparers were employees who prepared tax returns and Reviewers were employees who reviewed tax returns. Since the department processed tax returns that varied in degrees of difficulty, all levels of employees prepared tax returns while only Partners, Senior Managers, and Managers reviewed work.

The process started once a client made a request for tax return services. After making the request, an employee from the company's Administrative Department

assigned the work, based on the Preparers' skill level, workload, deadlines, and project difficulty. The Administrative employee would hand the project to the Preparer with a routing sheet that listed how much time had been budgeted for the project, the due date, and who the Reviewer was. When the Preparer was finished with the tax return, it was given to the Reviewer. If the Reviewer found any errors, they would give it back to the Preparer along with a written explanation of the problems and solutions. Reviewers occasionally corrected Preparers' mistakes depending on available time, how many times the work had already been reviewed, the type of mistake (e.g., spelling), and deadlines. This review and correction process could shuffle back and forth between Preparer and Reviewer as many as four times. Once the final review was finished, the Partner signed off on the tax return and sent it to the Administrative Department for final processing (e.g., photocopying and binding). The final step was when the end product was sent to the client.

The process map was analyzed to identify any disconnects that were affecting the timeliness, cost, effort, quality, and/or quantity of work. Disconnects were categorized into three major areas: obtaining needed information from a client or another employee within the company, assignment and preparation of projects, and review and revision of work that was about to be reviewed or had already been reviewed.

Performance problems and solutions. After the assessment, Dr. Cloyd Hyten and I had two separate meetings with the Partners and Managers. We presented them with the "Is" process map, a synopsis of the problems at hand, and possible solutions. Here is an outline of some of the problems that were identified in each of the three categories.

A. Obtaining Needed Information:

1. It was not always clear who to ask or where to go for answers or information.
2. More experienced employees went straight to the source; whereas, less-experienced employees took longer to access information.
3. The method of asking for information (face-to-face, e-mail, note-in-box) affected how long it took to get an answer.

B. Assignment and Preparation of Projects:

1. Partners were bypassing the regular assignment process, which was interfering with employees' workload and prioritizing of work.
2. Prioritizing work was inconsistent because it involved many variables such as deadlines, current workload, Partner requests, and nature of the task.
3. Simpler tax returns went through the same lengthy preparation and review process as more complex returns.

C. Reviews and Revisions:

1. Some employees were conducting better self-checks than were others.
2. Most projects were requiring multiple reviews.
3. Prioritizing revisions with the current workload was complicated.

Intervention. During the process mapping meetings, the Partners and Managers decided that the best course of action would be to focus on streamlining the process for simpler tax returns while retaining the regular process for regular returns. The nature of their business made it difficult to work on some of the other issues identified in the assessment. For example, standardizing prioritizing of work would be difficult because there will always be unexpected work that needs to be completed and therefore re-

prioritized. The Partners wanted to work on an issue that would have a greater impact on the bottom line. They indicated that the old process increased cost and decreased turnaround time of the simplest tax returns. An improved process for these jobs could lower their costs, increase their throughput, and free up time and personnel to work on the more complex tax returns.

Tax returns processed through the new streamlined process were called "one-ways" because the process was no longer bi-directional (i.e., the regular process in which work flowed from Preparer to Reviewer and back to Preparer for revision). The tax returns included in the one-way process were chosen because they were estimated to take about 5 hr or less to complete. The one-way process still consisted of the same five stages: client requests, work assignment, preparation, review, and final processing. Some of the steps involved in these five stages were changed. The main difference between the one-way process and the regular process was in the preparation and review stages. Only Staff prepared the one-way returns. The justification for doing so was twofold: Staff have a lower billing rate (hourly rate billed to the client) and are experienced enough to complete the tax return in a timely manner with few mistakes. The Review stage of the process changed in a few ways. Only Seniors would conduct reviews on one-way returns. This change was made for the same reasons that Staff were preparing the one-ways: they have a lower billing rate than the usual Reviewers (Partners, Sr. Managers, and Managers), and they are skilled enough to be able to find the types of errors that might occur with a simple tax return. It also served the purpose of giving Seniors training in the more technical aspects of tax returns. The nature of reviews also differed with the one-way returns. While the Reviewers would still find technical, grammatical,

and formatting errors, now they would also correct these errors. The Partners told the Preparers to finish as much of the returns as possible. Reviewers would then finish the incomplete work and correct all changes without sending the work back to the original Preparer for revision.

The "Should" process map illustrates how the old process was streamlined by making changes within or between process steps (boxes). Please see the one-way process map in Appendix A. Within-step changes included switching performers and changing the nature of the process step. Between-step alterations involved adding, eliminating, and/or combining steps.

The assignment phase of the process changed by eliminating step 3 in which Partners sometimes assigned work. Step 8 was altered by changing the performer level and tasks completed by the performer. Preparers no longer photocopied client documents because it was now an Administrative employee's duty. Instead of having all levels of employees preparing tax returns, one-way returns were completed by Staff. The new process had Reviewers addressing client questions, which eliminated steps 9c, 9e, 9f, 9g, and 9h. Step 13 changed because Seniors were now functioning as Reviewers and they were identifying and correcting mistakes instead of writing review notes for Preparers. Changing step 13 altered what happened between preparation and review and made steps 14, 14a, 15, and 16 unnecessary.

Design

An AB design (Barlow & Hersen, 1984) was used to assess the impact of the process improvement intervention. Because the new process was not introduced until January of 2000, any data generated before then functioned as baseline. All data were

collected from historical records kept on operational and financial measures. These data were collected from January to June of 1999 (baseline) and 2000 (intervention). The first half of each year constitutes the "tax season" for the company when the Tax Department does most of its work. The AB design thus permits a comparison of performance during the "tax season" under the old, regular process and under the new process that included one-way processing of simple returns. Such a design does not permit the degree of control obtainable by more sophisticated designs such as reversal or multiple baseline designs, but such designs were not possible in this case. Tax Partners and Managers chose to implement the new process and requested an evaluation of its impact after its first use. In addition to the financial and operational data, Seniors and Staff involved in the one-way process were surveyed in June of 2000 to determine their reactions to the new process.

CHAPTER 3

RESULTS

In order to assess the impact of the one-way process, financial and operational data were retrieved from computerized archives and analyzed. Comparisons were made between one-way tax returns that were processed in 2000 and similar tax returns (prepared for the same clients) completed in the regular process in 1999. Operational data included turnaround days (the number of calendar days that work was being done on a project), turnaround hours (hours spent on assigning, preparing, reviewing, and final processing), preparation time, review time, and preparation plus review time. To assess the financial impact of the one-ways on department performance, overall Tax Department financial data were also compared. Financial data included production (hours worked x employee's billing rate), dollars billed to client, realization (production/dollars billed to client x 100), and profitability percentage (net direct income/production). The firm's standard for realization is 90%, which means the goal is to bill at least 90% of the cost of production to clients. If they bill a smaller percentage of the production costs, the project will no longer be profitable. The realization cutoff point is based on how much it actually costs to produce work for clients, considering overhead and other miscellaneous expenses. The firm's profitability standard is 66%. The one-way process was first introduced in January of 2000. During the 2000 tax season, 142 one-way tax returns were processed, but data were only available for 109 of these projects. Out of the 109

one-ways processed in 2000, 77 of them were also prepared in 1999 through the regular process. Because the one-way process did not exist in 1999, the 77 returns that were processed in 1999 and 2000 will be referred to as the simple tax returns. In other words, simple tax returns that were completed in 1999 went through the regular process while simple tax returns finished in 2000 went through the one-way process.

Operational Data

Turnaround days. Table 1 shows data comparisons for operational and financial data in 1999 and 2000. The average number of turnaround days for the 77 returns compared in 1999 and 2000 decreased from 27 in 1999 to 17 in 2000. The work that was done during these days included assignment, preparation, review, photocopying, binding, and mailing. The number of days also reflects the downtime that occurs between reviews and revisions, when waiting to get more information from a client, and/or when waiting to get a question answered by a company employee.

Figure 1 depicts changes in turnaround days from 1999 to 2000. Increases and decreases reflect comparisons of the year 2000 one-ways against the same returns that went through the regular process in 1999. The data show that 47% (36 out of 77) of the projects showed an increase in the number of turnaround days. The graph also indicates that 48% (37 out of 77) of the projects showed a decrease in the number of turnaround days. About 5% (4 out of 77) of the projects had an equal number of turnaround days in 1999 and 2000.

Turnaround hours. Turnaround hours represent the total number of hours spent preparing and reviewing the return. It also includes time spent by the Administrative Department for such tasks as assigning, photocopying, binding, and mailing final copies

to clients. All data represent comparisons of time spent on projects in 1999 and 2000. Average turnaround hours decreased from 4 hr and 14 min in 1999 to 3 hr and 44 min in 2000 (Please see Table 1). Figure 2 reflects changes in turnaround days as a comparison of simple returns from 1999 to 2000. The graph reveals that 35% (27 out of 77) of the projects processed in 1999 and 2000 showed an increase in turnaround hours in 2000. It also indicates that 62% (48 out of 77) of the projects showed a decrease in turnaround hours in 2000. Approximately 3% (2 out of 77) of the projects had an equal number of turnaround hours in 1999 and 2000.

Preparation & review. Complete preparation and review time information was only available for 26 out of the 77 simple returns that were processed in 1999 and 2000. Average time spent preparing tax returns decreased from 4 hr and 15 min in 1999 to 3 hr and 3 min in 2000. Figure 3 depicts changes that occurred in preparation time between 1999 and 2000. Out of the 26 projects, 31% (8 out of 26) showed an increase in preparation time in 2000 and 69% (18 out of 26) showed a decrease.

Average time spent reviewing simple tax returns decreased from 1 hr and 33 min in 1999 to 1 hr and 6 min in 2000. Figure 4 represents changes in review time from 1999 and 2000. The graph indicates that 39% (10 out of 26) of the projects processed in 1999 and 2000 showed an increase in review time in 2000 while 61% (16 out of 26) of the projects showed a decrease.

Data were also collected on the combined time spent preparing and reviewing tax returns. Average time spent preparing and reviewing tax returns decreased from 5 hr and 48 min in 1999 to 4 hr and 9 min in 2000. Figure 5 shows that for 31% (8 out of 26) of the projects, there was an increase in time spent preparing and reviewing simple tax

returns in 2000 compared to the same tax returns in 1999. The graph also shows that 65% (17 out of 26) of the projects showed a decrease in preparation and review time in 2000. Only 4% (1 out of 26) of the projects processed in 1999 and 2000 showed no change in preparation and review time in 2000.

Financial Data

The firm processes different types of tax returns (e.g., individual and business returns). The type of tax return is one of the variables that determine how long it will take to prepare the tax return. Individual returns are generally simpler and, therefore, take a shorter amount of time. A number of clients have their individual and business tax returns prepared by the firm. Some of these clients' individual and/or children's tax returns were included in the one-way process while their business return was processed in the regular process. Because the firm usually bills clients when all of their work is completed, these clients who had multiple types of returns being processed were not billed until after June 2000. The data used in this study represents year-to-date information from January (start of tax season) to June for 1999 and 2000. Only 68 out of the 77 simple tax returns that were processed in both 1999 and 2000 had complete data because the other 9 projects had not been billed as of June 2000 and therefore were not included in the final analysis of this study.

Production and dollars billed. Billing rates represent how much clients are billed (per hour) for work completed. The billing rate increases as the job title gets higher. For example, Staff have the lowest billing rates; whereas, Partners have the highest. This is not to be confused with hourly wage, which is how much employees are paid an hour. The following formula is used to calculate production: billing rate X hours worked.

Production data were available for all 77 of the simple tax returns that were processed in 1999 and 2000; however, only the 68 that had already been billed at the time of the study were used in calculating production figures. Table 1 shows that total cost of production for all simple tax returns decreased from $35,197 in 1999 to $32,497 in 2000. The production data had to take into account that billing rates were raised for some employees in 2000. In order to control for these increases, both dollar amounts for production were adjusted for the average billing rate on one-ways in 2000. An average billing rate for 2000 was calculated by first taking the total production dollars for all of the tax returns the Tax Department processed in 2000 and dividing it by the total turnaround hours for the same projects in 2000. This generated an average billing rate of $107.81 for the year 2000. Then, the average billing rate in 2000 was multiplied by the total number of turnaround hours in 1999 and 2000 respectively. Because increases in billing rates were controlled for, this decrease in production means that fewer hours were spent working on one-way tax returns in 2000 than were spent working on the same tax returns the year before. The average cost of production per return decreased from $457.10 in 1999 to $422.04 in 2000 (please see Table 1).

Of the 68 clients who were billed, total dollars billed increased from $25,809 in 1999 to $28,081 in 2000. The average dollars billed to clients per return increased from $379.54 in 1999 to $412.96 in 2000. Figure 6 illustrates the percent of projects showing an increase, decrease, or no change in client bills from 1999 to 2000. The graph indicates that 51.5% (35 out of 68) of the simple returns showed an increase in the amount billed to the client in 2000. The average increase in the clients' bills from 1999 to 2000 was about $194.96 or 66%. It also shows that 47% (32 out of 68) of the simple returns that were

processed in 1999 and 2000 showed a decrease in the amount billed to the client. The average decrease was approximately $214.23 or 48% from the client's bill in 1999. While almost half of the projects showed a decrease in the amount billed to the client, the realization for 84% (27 out of 32) of these projects was at or above the firm standard (90%). This meant that these projects were still profitable although the amount billed to the client had decreased. The graph also shows that 63% (20 out of 32) of the projects that billed clients less in 2000 still showed an increase in realization from 1999. This indicates that, for the projects that were billed less in 2000, percentage of production dollars billed to the client increased. Only 1 out of 68 of the simple tax returns processed in 1999 and 2000 showed no change in the amount billed to the client.

Realization. Average realization for simple tax returns increased from 89% in 1999 to 103% in 2000 (please see Table 1). Figure 7 shows changes in realization from 1999 to 2000. Of the simple tax returns processed in 1999, 60% had a realization equal to or greater than 90%, while 82% of the simple tax returns processed in 2000 had a realization equal to or greater than 90%. Basically, more of the simple tax returns processed in 2000, versus 1999, were profitable. Figure 8 shows changes in realization from 1999 to 2000. Of the projects processed in 1999 and 2000, 62% (42 out of 68) showed an increase in realization in 2000. Additionally, 83% (35 out of 42) of these projects were 90% or more realizable. In 2000, 25% (17 out of 68) of the one-ways showed a decrease in realization; however, 65% (11 out of 17) of these projects were at least 90% realizable. In other words, the majority of projects that displayed a decrease in realization in 2000 were still 90%, or more, realizable. Finally, 13% (9 out of 68) of the projects processed

in 1999 and 2000 showed no change in realization from 1999 to 2000, and all of these projects had realization percentages of 90% or higher.

Figure 9 shows the distribution of realization percentages in 1999 and 2000. This graph shows that realization ranges started much lower (7-9%) and ended lower (110-119%) in 1999 when compared with 2000 tax returns. In 2000, the realization range started higher (50-59%) and ended higher (180-189%). This graph also shows that there were fewer projects in 1999 with realization above 90%; whereas, the majority of projects in 2000 had realization percentages at or above 90%.

Overall Tax Department Financial Data

Financial data for the Tax Department as a whole is representative of year-to-date figures from January to June of 1999 and 2000. These data were calculated using production and billing information for all the projects (regular and one-way tax returns) that were completed and billed by June, 1999 and 2000, respectively. The Tax Department prepared 1435 tax returns (sum of complex and simple) in 1999 and 1584 in 2000. Realization increased from 91% in 1999 to 99% in 2000. Profitability increased from 58% in 1999 to 66.5% in 2000. The production amount for all returns processed in the Tax Department increased from $1,684,008 in 1999 to $1,733,748 in 2000. This represents a 3% increase.

When a client is not billed the total cost of production, the amount not billed is considered a write-off. Write-offs are directly related to realization. For example, if 4% of production is written off, it means that project was 96% realizable. The firm does not want write-offs to exceed 10% or realization will fall below the 90% standard. In 1999, write-offs amounted to $143,232 while that amount was $14,751 in 2000. Department

net direct income (DNDI) represents how much money the department is generating for the firm. DNDI increased from $975,442 in 1999 to $1,154,472 in 2000. 71.8% of this increase is due to lower write-offs. This was calculated by taking the difference between write-offs in 1999 ($142,232) and 2000 ($14,751) and dividing by the difference between DNDI in 1999 ($975,442) and 2000 ($1,154,472).

Quality Assessment Data

Because the company did not have any quality measures in place, it was necessary to create some. Had I been part of the implementation phase of the new process, a quality measure would have been created at that time. However, this was not the case, so a Quality Assessment survey was created as a post-intervention measure. Although this is not quantitative data, it does provide added insight into quality areas that may be examined further.

This Quality Assessment survey was administered in June of 2000 to determine the quality of work that was reviewed during the 2000 tax season. Seniors conducted the reviews for the one-way tax season; however, a few Managers also filled out the surveys because they were familiar with the quality of work generated from the one-way tax returns. Surveys were anonymous, so the exact breakdown of how many Seniors and Managers filled out the Quality Assessment form is not known. Reviewers rated the frequency with which they observed corresponding statements. A rating of 1 meant that the corresponding statement never occurred (0 % of the time) while a 5 meant that the corresponding statement always occurred (100% of the time). Out of the 4 Managers and 11 Seniors, six turned in completed forms. See Appendix C for the original questions and for tallies of all answers.

Most Reviewers (5 out of 6) said that Preparers turned in accurate and complete returns approximately 50-75% of the time while one Reviewer said that Preparers never turned in accurate or complete returns. Approximately 25-75% of the time, unfinished returns were due to Preparers receiving incomplete client information. Most of the Reviewers (5 out of 6) said that inaccurate returns were due to Preparers' carelessness about 25% of the time while one senior felt that Preparers' carelessness was responsible in about 50% of tax returns. When asked if they thought that Preparers were turning in unfinished work that could have been done, individual Reviewers said it occurred between 0-75% of the time. One Reviewer said it occurred 75% of the time, another said it never occurred, and two each said that it occurred 25% to 50% of the time.

Satisfaction Survey Results

An employee satisfaction survey was administered in June 2000 to the Reviewers and Preparers who participated in the one-way process. The focus of this survey was to determine how the employees in this group viewed the new one-way process, their front-end understanding of the new process, and their opinion on whether or not the new process should continue next tax season. Four out of the five Preparers (Staff employees) that were present during the 2000 tax season completed the survey. Again, six out of the 11 Seniors and 4 Managers filled out the Reviewer's satisfaction survey. Because Preparers and Reviewers executed different functions in the one-way process, they were given different surveys. Employees were asked to rate their level of agreement on a Likert scale from 1 to 4 with corresponding statements. A rating of 1 meant they strongly disagreed and a 4 meant they strongly agreed. See Appendix C for original questions and for tallies of all answers.

In general, all employees understood the objective of the new process and the difference between the regular process and the new process. While the Reviewers showed little consensus on whether or not the new process achieved its purpose, Preparers unanimously agreed that the new process achieved its purpose.

Most Preparers (3 out of 4) agreed that they preferred working on other types of returns versus the one-way returns. Most Reviewers (4 out of 6) said they would have preferred reviewing one-way returns instead of working on other returns. Only half of the Reviewers felt that reviewing one-way tax returns helped to improve their technical skills. Half of the Preparers agreed that the one-way tax returns enabled them to work on more difficult tax returns. None of the Preparers felt that completing one-way tax returns improved their technical skills.

Less than half of the Reviewers (2 out of 6) and half of the Preparers felt that the new process needed changes. Some of these changes probably have to do with the way tax returns were chosen to be included in the one-way process. More than half of the Reviewers (5 out of 6) and all of the Preparers agreed that the one-way tax returns should be chosen more carefully next year. However, 5 of the 6 Reviewers and all of the Preparers agreed that the criteria for including tax returns in the one-way process were appropriate. The inclusion criteria were based on estimated time to complete the return and complexity level. During informal interviews, the Preparers and Reviewers agreed with the set criteria for inclusion, but did not agree with exceptions made to these criteria. For example, some tax returns did fall within the estimated time and difficulty criteria but had an excessive amount of missing information, which caused the return to exceed the estimated time.

Other changes suggested by survey respondents involve the assignment process and photocopying process for the one-way tax returns. Managers usually assign work in the regular process, but an Administrative employee assigned work in the one-ways because Partners felt that they could assign work just as well as a Manager if the tax return was simple. Half of the Preparers agreed that they would like to continue seeing the Administrative Department assign one-way returns. Administrative employees were also photocopying client information for Preparers because simple returns do not require many photocopies. However, the Partners and Managers felt that they could save on production amount by having Administrative employees do the photocopying at a lower billing rate and charging clients the usual amount for photocopying. Administrative employees do not usually photocopy clients' documents for preparation because they require some deciphering as to what information is needed and, therefore, photocopied. None of the Preparers would like to see the Administrative Department continue to make client photocopies for one-way returns. None of the Preparers or Reviewers would like to return to the regular tax return process next year. In other words, they would like to continue seeing simple tax returns go through the one-way process and more difficult tax returns go through the regular process. Overall, all the Preparers and Reviewers agreed that they would recommend using the one-way process in the next tax season.

The Employee Satisfaction Survey also targeted Reviewers' satisfaction with the review process of one-way tax returns. Most of the Reviewers (5 out of 6) did not feel that time spent on reviewing one-ways was excessive. Some Reviewers (3 out of 5) felt that reviewing one-ways prevented them from working on more complex returns. All

Reviewers felt that the mistakes they found during reviews could have been fixed by the Preparers if they had conducted better self-checks before the review process.

CHAPTER 4

DISCUSSION

This analysis of the one-way process suggests that it had the desired effect on key financial and operational data. Comparisons of financial data in 1999 and 2000 revealed that work completed in the new one-way process in 2000 was cheaper to produce and more profitable than similar returns processed regularly in 1999. The one-way process also improved the efficiency of work by shortening both preparation and review times. In addition, turnaround time decreased indicating that throughput in the entire process was enhanced. The Tax Department's entire workload was not analyzed, so the effect of the one-way process on the processing of more complex returns is not known in any direct manner. However, financial data for the Tax Department as a whole indicated that the department's performance improved in 2000. This evidence suggests that, at a minimum, the one-way process did not harm other work done accurately in that department to any significant degree.

It is possible that the one-way returns contributed to the improvements seen in the department's overall performance, although the degree of that contribution could not be determined from the present data. A more comprehensive (and daunting) analysis of all the work completed in the Tax Department would be necessary to isolate the contributions of the one-way process to the department's overall performance. Such an analysis was not deemed worthwhile in this study because several other changes in the

organization may have affected work done in the one-way and in the regular process. These potential confounds make it impossible to isolate the contribution of the one-way process to department performance. It is clear that returns processed in the new one-way process were cheaper, faster, and more profitable; it is not clear that the one-way process was the only factor contributing to these results. Additional factors will be discussed below.

Financial Data

There was a 9% increase in dollars billed to clients, which could be due to the increases in billing rates and/or higher realization (lower write-offs). Total amount billed to clients is not as important as realization. Increases in total amount could be representative of increases in billing rates or volume of work or a combination of both. However, increases in realization, or realization percentages of 90% or higher, indicate that more of the work being produced is being billed to the client. This translates into high profits. In other words, the goal is not necessarily only to produce more, but also, to bill more of what is produced. In the 2000 tax season, more of what was produced was billed.

Total production decreased while dollars billed to client increased. This is reflected in the increased realization for 2000. Improved realization may have been affected by several variables. A new incentive compensation program for Managers and Senior Managers started in the beginning of 2000. This new incentive compensation program encouraged Billers (anyone who writes the final bill for the client) to write off less work as one of many components designed to improve financial results. This may have motivated the Billers to simply bill for more of the work that was done, even work

that would not have been considered efficient or justifiable in 1999. However, the fact that turnaround days and hours decreased in 2000 indicates that one-ways were processed more efficiently. Basically, the same amount of work was completed in fewer days and hours (on average) but the client was billed just as much or more than in 1999. With regard to the one-way returns, higher realizations appeared to be attributable to the higher efficiency of the work not just to pressure to inflate realization. It is possible that pressure to inflate realization interacted with the effects of the one-way process to lend to the high realization percentages observed in 2000.

Another possible confound in the analysis of results is related to employee experience. Of the five Staff employees who prepared one-way tax returns in 2000, three were also there in the 1999 tax season. These three employees had the benefit of working on simple tax returns for a year. Having an extra year's experience may have improved their skills enough to generate decreases in preparation time for one-ways. At this point, I cannot ascertain what impact, if any, this experience had on the preparation data, so employee experience may account for some of the improvement seen in the year 2000 data.

Operational Data

Apart from possible confounds, there are reasons why the new one-way process may have contributed to the improvements in the specific financial and operational measures used to compare the similar returns completed in 1999 and 2000. Preparation time was expected to decrease in the one-way process because the nature of preparation work changed. In the regular process, Preparers do all the work necessary to complete a tax return. This could include getting questions answered by another firm employee (e.g.,

Manager or Partner) and/or getting information from the client. It could also include reviewing and correcting mistakes found in review, which could occur more than once per project. However, in the one-way process, Preparers were told to complete as much of the return as possible before passing it on to the reviewer. The reduction in preparation time could reflect the time that Preparers would normally spend getting information from other firm employees or clients and/or correcting errors found in review. Staff are less experienced employees and usually work on the simpler tax returns as well as on parts of more complex tax returns. They are skilled enough to complete a simple tax return on their own, given all the necessary information. If they are not given complete information at the beginning of the process, they have to spend time retrieving this information. The initial assessment of the regular tax return process indicated that less experienced employees took longer to retrieve needed information from other firm employees. On the other hand, more experienced employees were better at getting this type of information. Also, the more-experienced employees were given clearance to contact clients if necessary. Since less-experienced employees are usually not given this clearance, they must rely on other employees to get this information for them. This can add unnecessary time to a project. In the one-way process they no longer had to do this. They could complete what they could, make a list of questions/concerns, and pass it on to the Reviewer who would get the questions answered and thus complete the return themselves.

While doing this saves time in the process, it may encourage passing on incomplete work that could have been done. Results from the Quality Assessment Survey indicate that this area should be looked into in the future. Most of the Reviewers felt that

Preparers were passing on incomplete tax returns that could have been corrected or completed before being passed on for the one-way review. This lends more support to the notion that the new process may have encouraged Preparers to pass on incomplete work to Reviewers.

It may seem counterintuitive to have a Senior reviewing simple tax returns because they are more experienced and should be working on more complex returns. In addition, they have a higher billing rate than the Staff that does the majority of preparation. However, reviewing one-ways gave Seniors the opportunity to improve technical skills. This skill is compulsory to move up into a management position. In terms of the billing rate issue, because Seniors were more experienced they were capable of reviewing and, when necessary, completing the simple tax returns faster, more accurately, and more efficiently than a less experienced Staff employee. This results in fewer hours spent working at their higher billing rate.

Overall, the one-way process was faster. The decrease in turnaround days indicates that there was less down time in the 2000 one-ways. A possible explanation for this decrease is that one-way returns were no longer bi-directional, like regular returns. In other words, work was no longer being shuffled back and forth between Preparers and Reviewers. The one-way projects flowed in one direction, and the employees who worked on these projects knew how to get work done and how to get information when they needed it. Less experienced Preparers did not have to wait to get questions answered as they may have to in the regular process and Reviewers did not have to wait for Preparers' revisions.

Average turnaround hours decreased by 20 minutes. Again, Preparers were not submitting their work for a regular Review; therefore, they did not have to deal with review notes and revisions, which can cause added hours and days to a project's turnaround time. In addition, Reviewers did not have to conduct multiple reviews. Not only do revisions take time to complete, but it usually takes additional time for Preparers and Reviewers to re-familiarize themselves with a tax return they have not seen in a few days.

Survey Data

The quality assessment identified an inconsistency between job levels as to whether or not the one-way process achieved its purpose. The purpose of the new process was different according to employee level. The new process intended to give Staff simpler tax returns that they could complete in a short amount of time without having to correct mistakes found during reviews. At the same time, Seniors were reviewing and fixing mistakes found during their reviews. Overall, the new process was supposed to give Seniors more time to work on more difficult reviews while also giving them review experience, in the hopes of improving their technical skills. Since the purpose was multi-layered for the Seniors, it seems that the new process was possibly successful at fulfilling some layers but not all.

Preparers reported that completing one-ways did not improve their technical skills. This may be because the returns were so simple that Preparers were capable of completing the tax returns on their own. Another possible explanation can be due to Reviewers not giving Preparers feedback on their performance, as they would in the regular process in the form of written review notes.

The survey data indicated that the issue of who should photocopy client documents deserves some extra attention. Preparers indicated that they would prefer photocopying client documents themselves before starting the tax return. This is what usually happens in the regular process; however, Partners thought having Administrative employees photocopy client documents would shave time off of preparation work. This would assist in making one-way returns more profitable. During informal interviews, Preparers articulated their concerns about this issue. Some of the Preparers felt that making their own photocopies was a necessary step in getting familiar with a client's file before starting the project. Other Preparers were not so much concerned about using the photocopy time to get familiar with a project, but were concerned about Administrative employees not photocopying the correct documents or photocopying the correct documents but in the wrong format (landscape versus portrait). Preparation time data does not indicate that this issue had an effect on the final results. However, because all the Preparers expressed concern, it may be worthwhile to examine this practice in subsequent tax seasons.

Future Refinements to the One-Way Process

It may be worthwhile to re-examine the inclusion rule for one-ways. I would suggest looking further into the impact of one-ways that had incomplete information at the front-end to determine if these projects took longer and were less profitable than jobs with more complete information. Tax returns were selected for inclusion in the one-way process by examining how long they took to complete in 1999. But time to complete the return in any year can be affected by how complete the necessary information is prior to

the start of preparation work. Perhaps the completeness of client information should be a factor in the inclusion criteria for one-way returns.

Another area to examine further are the variables that caused some one-ways to have higher or lower turnaround days, preparation time, and review time then the majority of one-way returns. Those one-ways that had higher and lower realization could also be examined to determine whether any characteristics of the returns itself, or the practice of the Preparers and Billers might affect these measures. If such variables could be identified, information could be considered when deciding whether or not to include a project in the one-way process.

In conclusion, process redesign can be an effective method for improving performance. Working with the firm's management personnel, an analysis of the existing processes revealed an opportunity to try a new process. The one-way process streamlined an existing process that functioned well for certain types of tax returns but was too time-consuming for simpler tax returns. The new process effectively changed and, in some cases, eliminated inefficient process steps. Rummler and Brache (1995) claimed that processes are key to understanding organizational performance. The current study supplies much-needed quantitative data showing that process improvement interventions can have a beneficial effect on key financial and operational measures.

APPENDIX A

PROCESS MAPPING QUESTIONS AND PROCESS MAPS

Process Mapping Questions

General Information:

1. What services do you offer?
   What do you want to see from this process map?
   -Any specific info?
2. What are you going to be using the process map for?

Work Assignment and Getting Started

3. How does work come in?
   - Through partners, mgrs., etc.
4. How does process vary by partner?
5. How is work assigned?
   - How do you categorize assignments?
6. What happens from the time that work is assigned to the time you get started?
7. Does it require getting any additional info from client?
8. Who retrieves that info: staff or manager?
9. What else is necessary before a return can be started: info, skills, etc.

Completing Assignment and Review Process

10. What happens from the time that you start return to the time that you finish?
11. What do you do when you are finished?
12. Who reviews the work?
    - Does this depend on type of job?
13. Do all projects get reviewed the same number of times before being given to client?
    - Does it depend on size of project/client?
    - Does it depend on time?
    - Does it depend on staff skills?
14. What do you look for in reviews?
15. What do you do if there are errors?
16. How much time given to correct errors?
17. Do reviewers ever correct errors themselves?
18. What do you do if there are no errors?
19. Are reviews based on client needs/wants or industry based needs/wants?

Variances

20. What areas in the process vary the most from project to project?
21. Vary by time spent, skills needed, review time?
22. What is variance due to: type of project, client, and/or staff skills?
23. How much time/money does each step cost the company?
    - How does this vary?
24. Do you ever rely on other department to get work done?

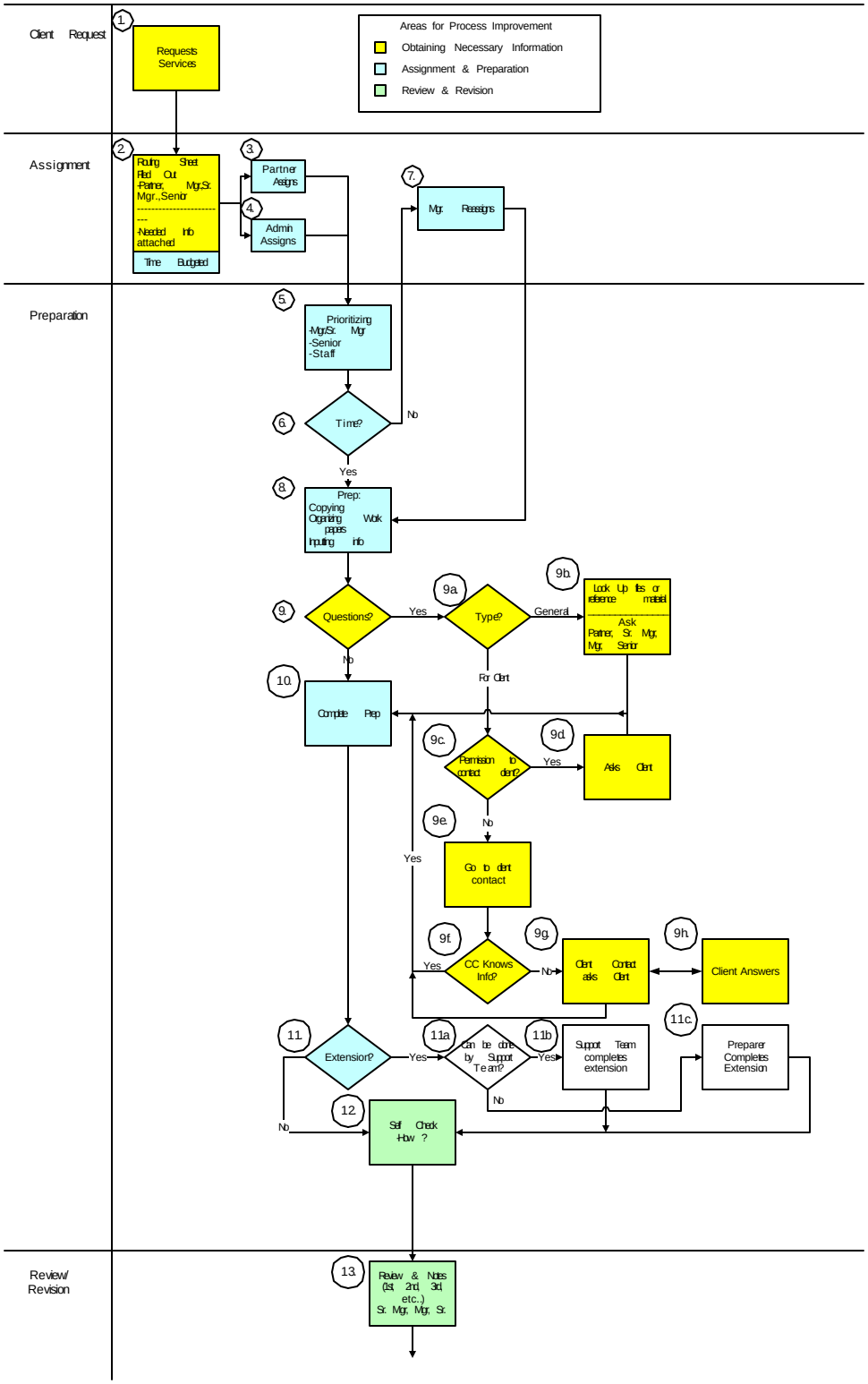
Client Needs

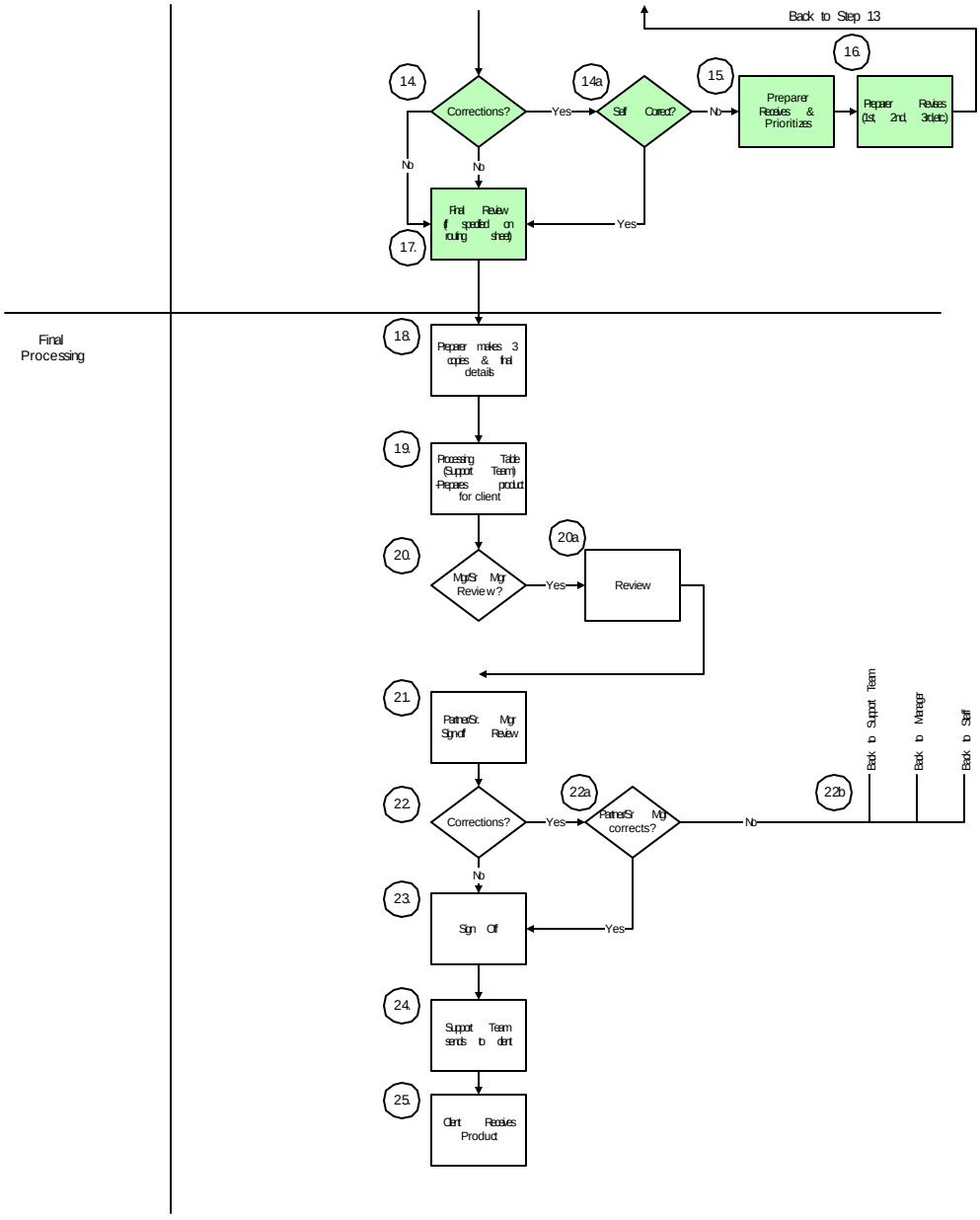
25. How do you know when client needs haven't been met?
26. Is there a measurement system in place?
27. Does client usually tell you?
28. Do you rely on repeat business as an indicator?

Conclusion

29. Do you know of any problems in the process?
30. Any suggestions?

Tax Department
Internal Process Flow - "Is Map" By Stage
Eagle Performance Improvement Consultants M. Chhabra & C. Hylen 8/18/99

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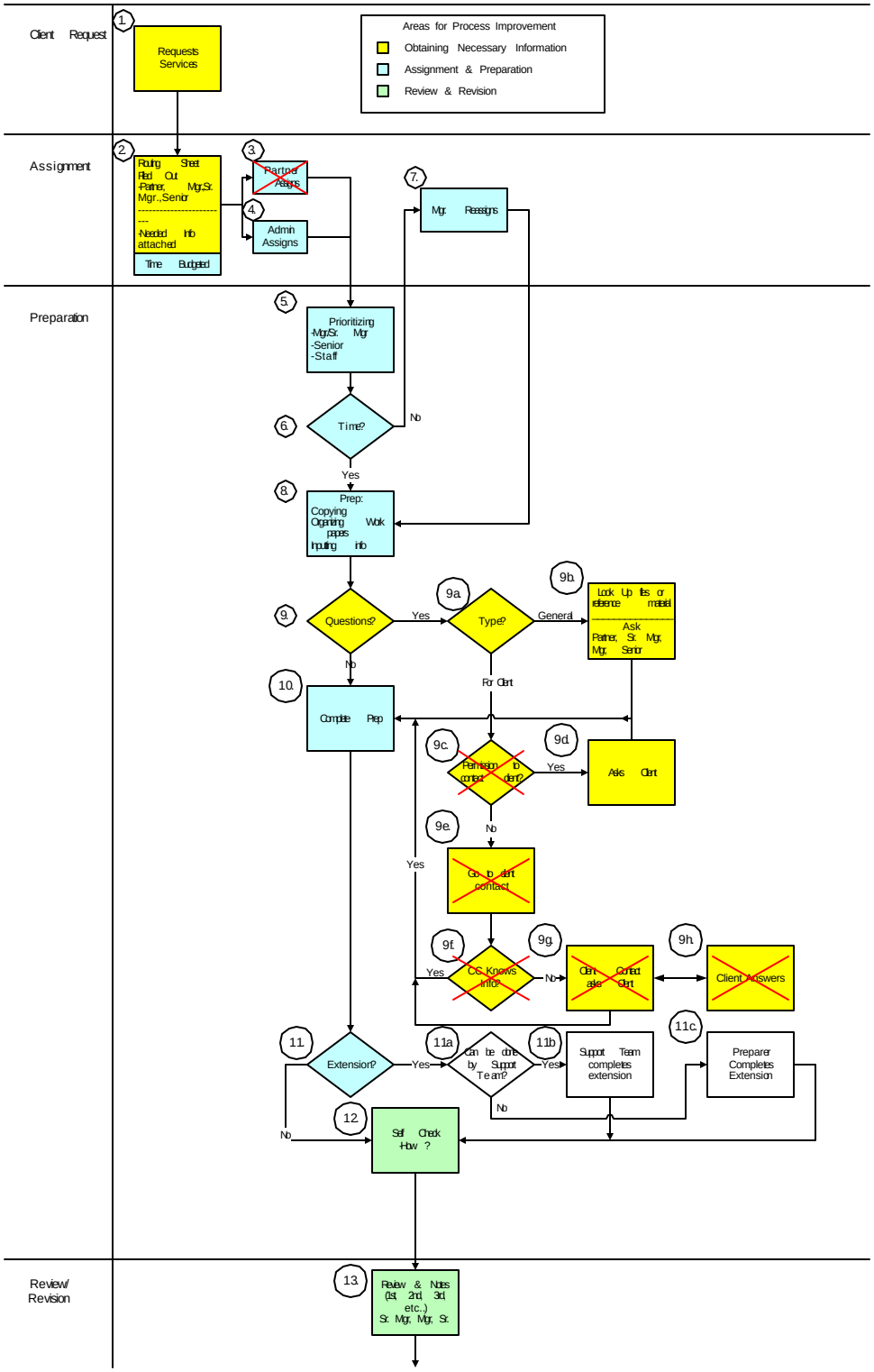
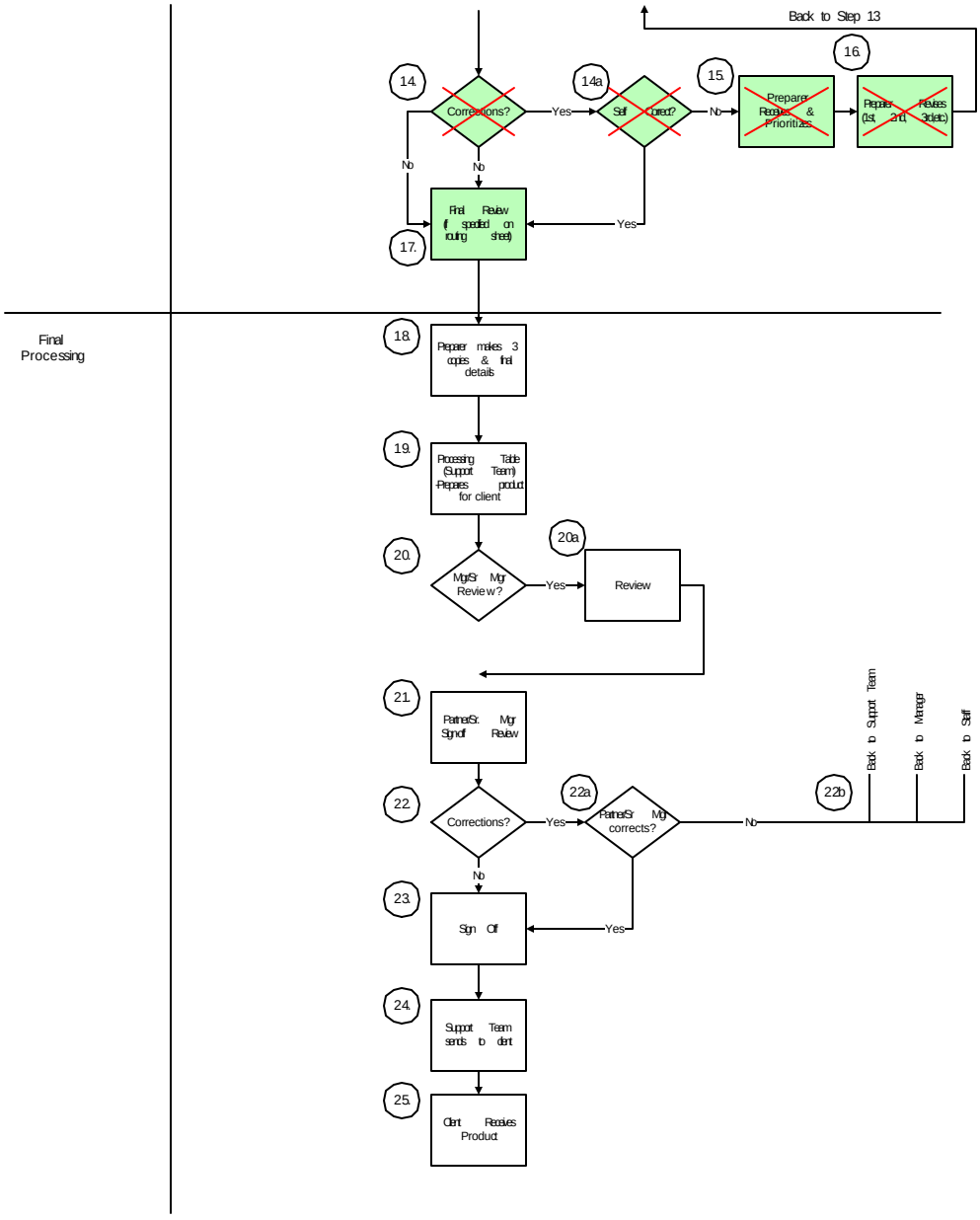
14.
Corrections?
Yes
14a
Staff Correct?
No
15.
Preparer Receives & Prioritizes
16.
Preparer Reviews (1st, 2nd, 3rd etc)
No
No
Final Review (if specified on routing sheet)
Yes
17.
Final Processing
18.
Preparer makes 3 copies & final details
19.
Processing Table (Support Team) Prepares product for client
20.
Mgr/Sr Mgr Review?
Yes
20a
Review
21.
Partner/Sr. Mgr Signoff Review
22.
Corrections?
Yes
22a
Partner/Sr Mgr corrects?
No
22b
Back to Support Team
Back to Manager
Back to Staff
No
23.
Sign Off
Yes
24.
Support Team sends to client
25.
Client Receives Product

Tax Department
Internal Process Flow - "Should Map" By Stage
Eagle Performance Improvement Consultants M. Chhabra & C. Hylen 8/18/99

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17.
Final Processing
18.
Preparer makes 3 copies & final details
19.
Processing Table (Support Team) Prepares product for client
20.
Mgr/Sr Mgr Review?
Yes
20a
Review
21.
Partner/Sr. Mgr Signoff Review
22.
Corrections?
Yes
22a
Partner/Sr Mgr corrects?
No
22b
Back to Support Team
Back to Manager
Back to Staff
No
23.
Sign Off
Yes
24.
Support Team sends to client
25.
Client Receives Product

APPENDIX B

TABLE AND FIGURES

Table 1
Data Comparisons for 1999 and 2000

Operational Data	**1999**	**2000**
Average Turnaround Days	27	17
Average Turnaround Hours	4:14	3:44
Average Preparation Time	4:15	3:03
Average Review Time	1:33	1:06
Average Prep + Review Time	5:48	4:09
Financial Data	**1999**	**2000**
Total Production	$35,197	$32,497
Average Production	$457	$422
Total Dollars Billed	$25,809	$28,081
Average Dollar Billed	$380	$413
Average Realization	89%	103%

Note: Turnaround and production data were generated from 77 of the simple returns processed in 1999 and 2000. Preparation and review time data represent 26 out of 77 of the simple tax returns processed in 1999 and 2000. Dollars billed and realization data represent 68 out of the 77 simple tax returns processed in 1999 and 2000.

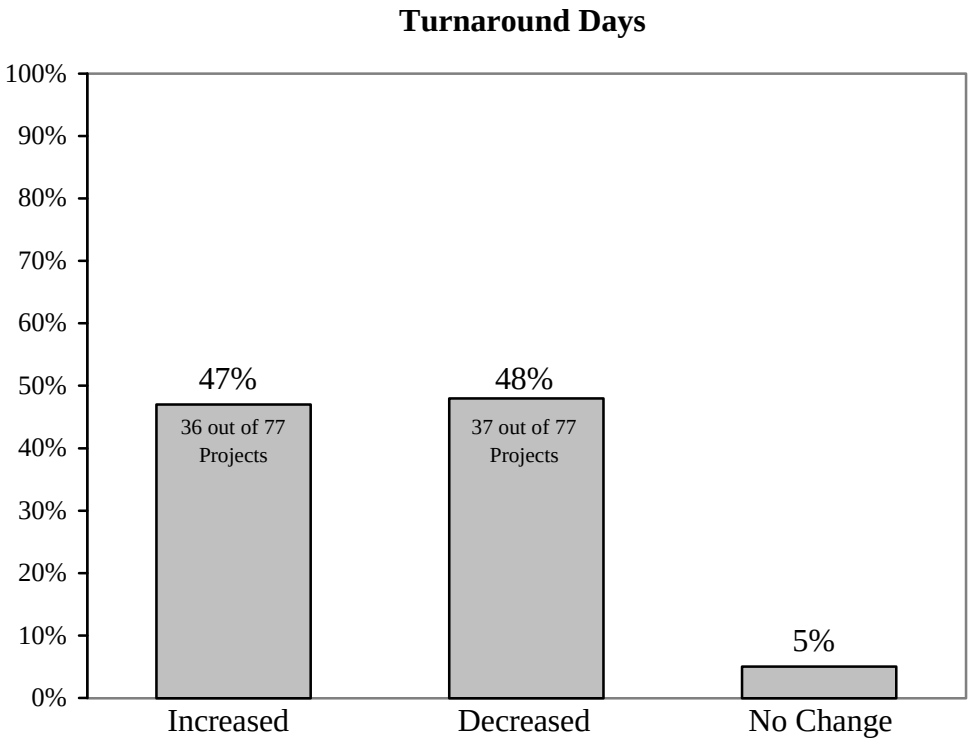

Figure 1. Percent of projects showing increases, decreases, or no change in turnaround days from 1999 to 2000. Data represents 100% (77) of the one-way projects processed in 2000.

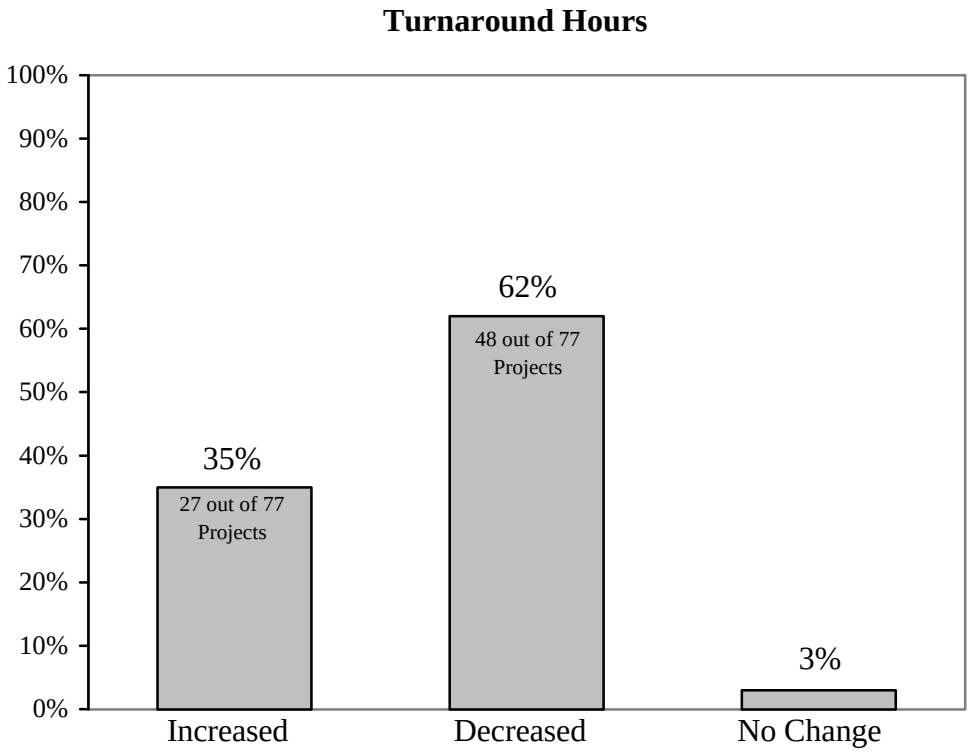

Figure 2. Percent of projects showing increases, decreases, or no change in turnaround hours from 1999 to 2000. Data represents 100% (77) of the one-way projects processed in 2000.

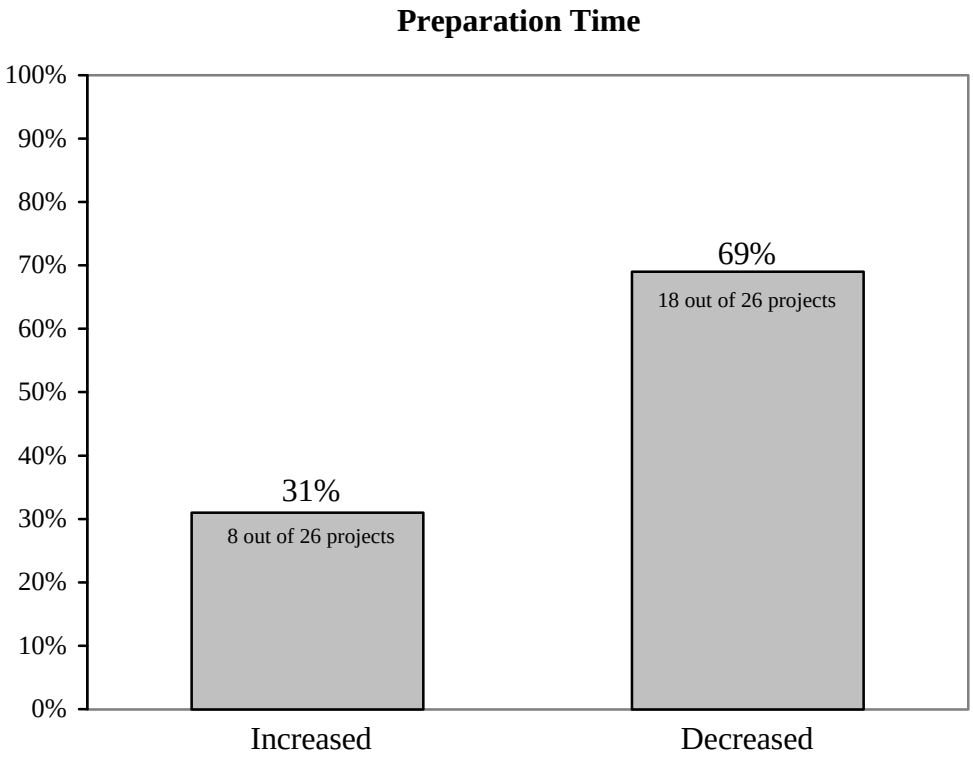

Figure 3. Percent of projects showing increases or decreases in preparation time from 1999 to 2000. Data represents 34% (26 out of 77) of the one-way projects processed in 2000.

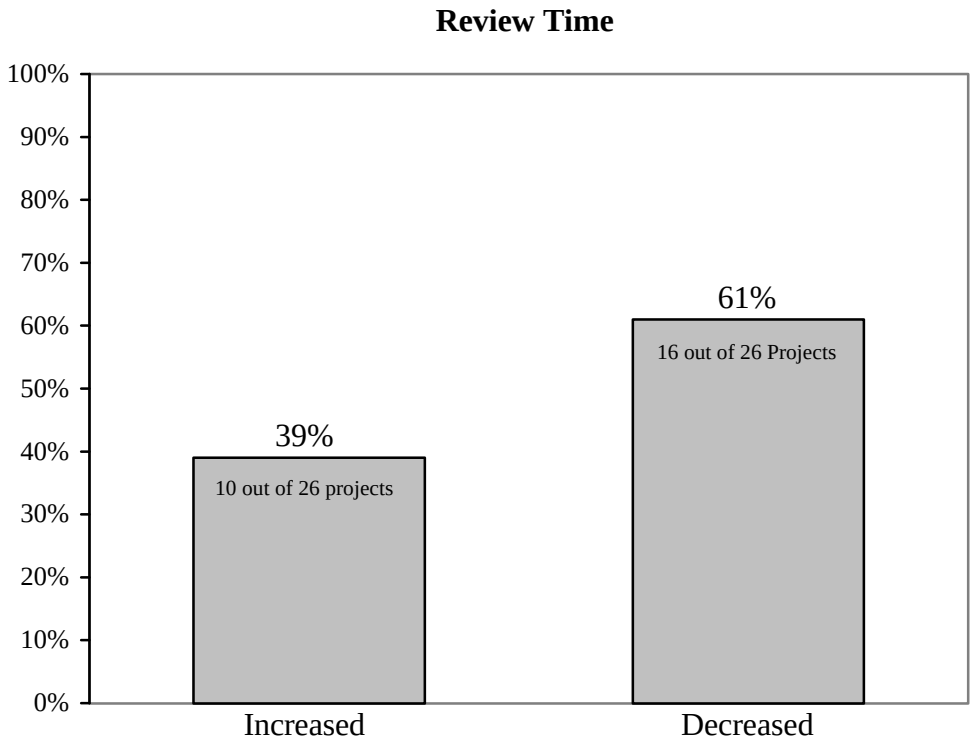

Figure 4. Percent of projects showing increases or decreases in review time from 1999 to 2000. Data represents 34% (26 out of 77) of the one-way projects processed in 2000.

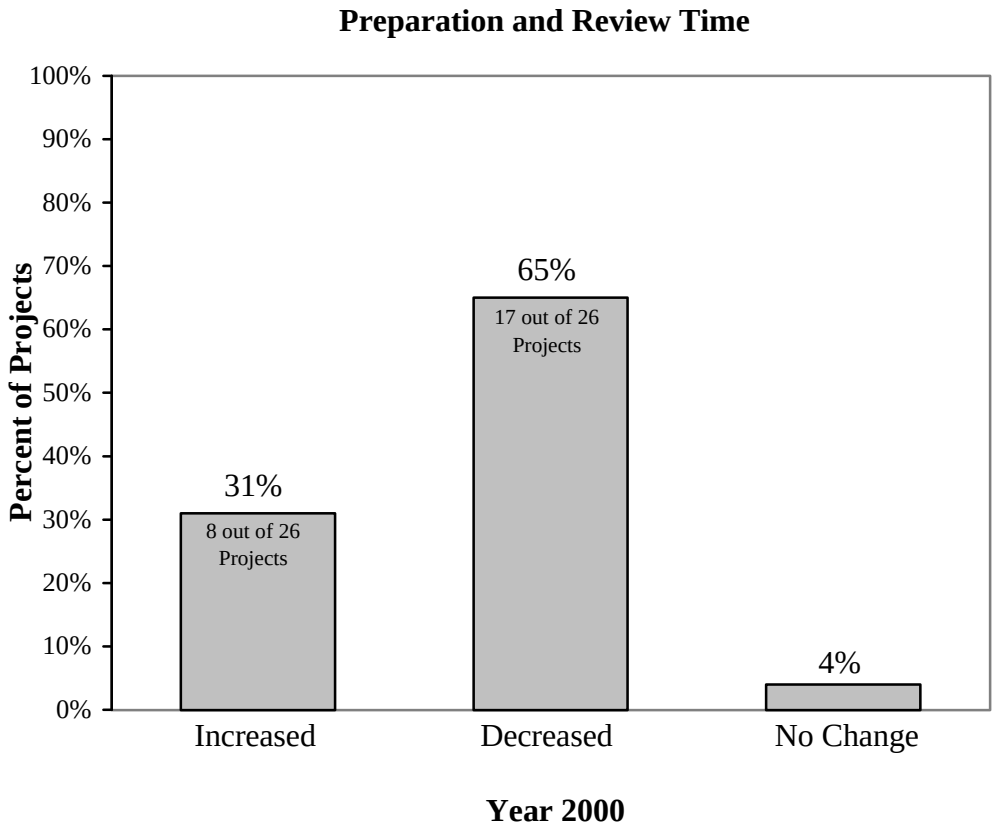

Figure 5. Percent of projects showing increases, decreases, or no change in preparation + review time from 1999 to 2000. Data represents 34% (26 out of 77) of the one-way projects processed in 2000.

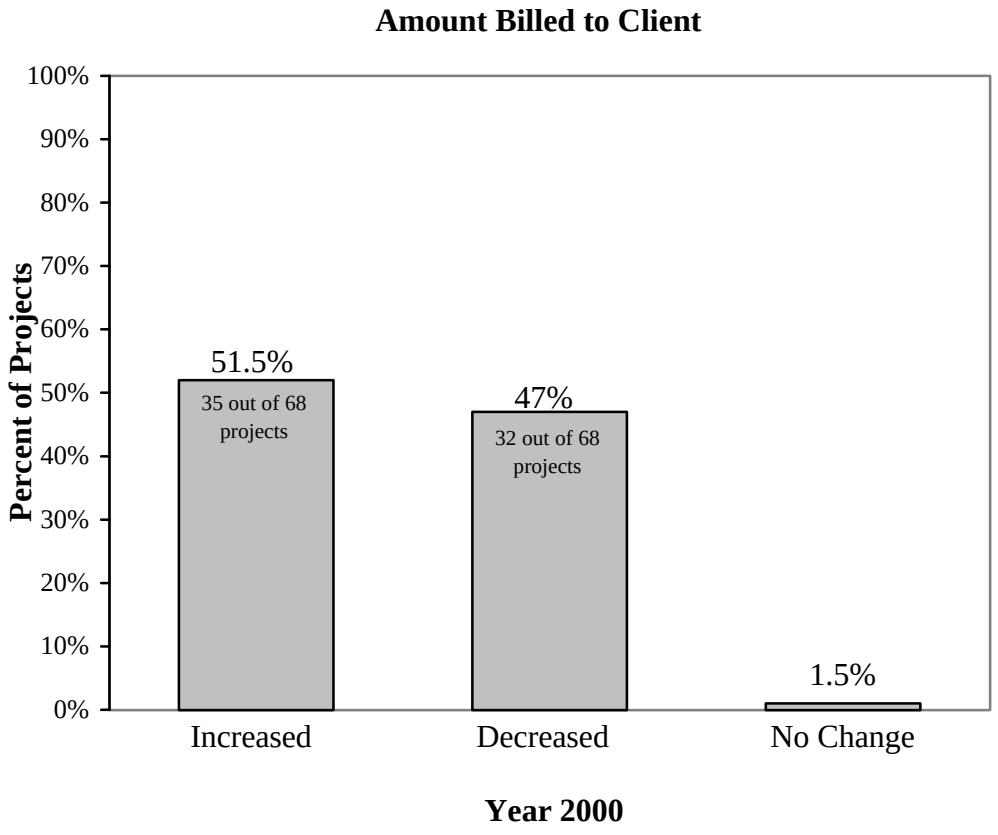

Figure 6. Percent of projects showing increases, decreases, or no change in amount billed to client from 1999 to 2000. Data represents 88% (68 out of 77) of the one-way projects processed in 2000.

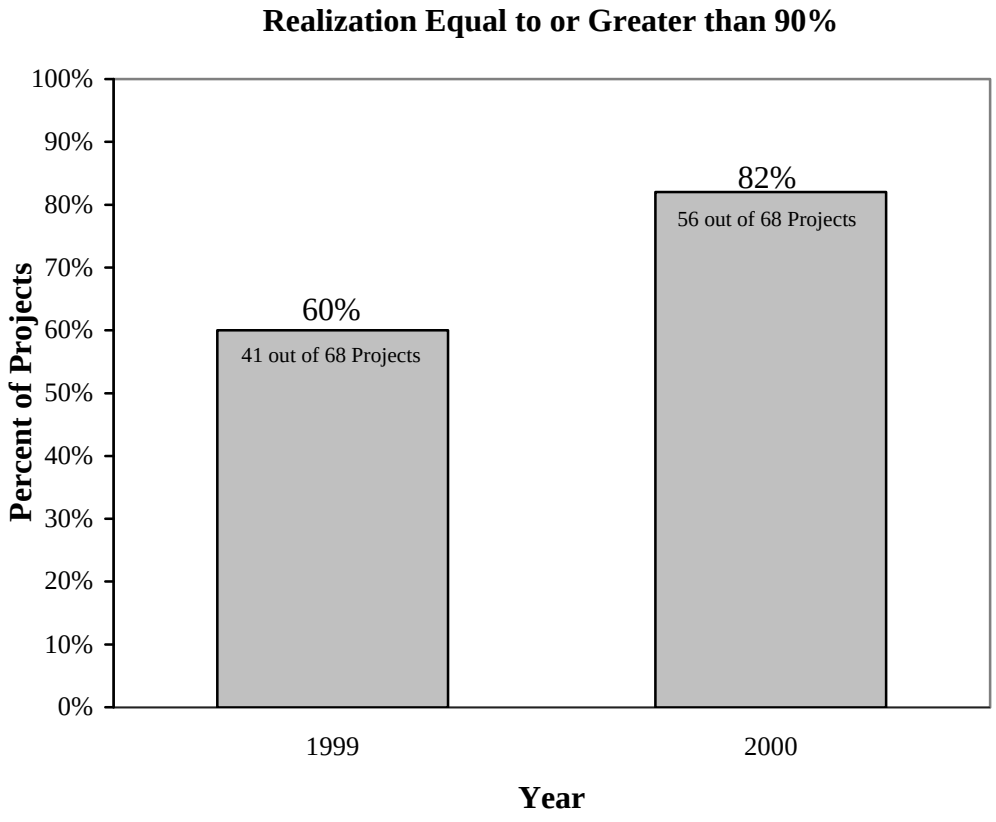

Figure 7. Percent of projects with realization equal to or greater than 90%. Data represents 88% (68 out of 77) of the one-way projects processed in 2000.

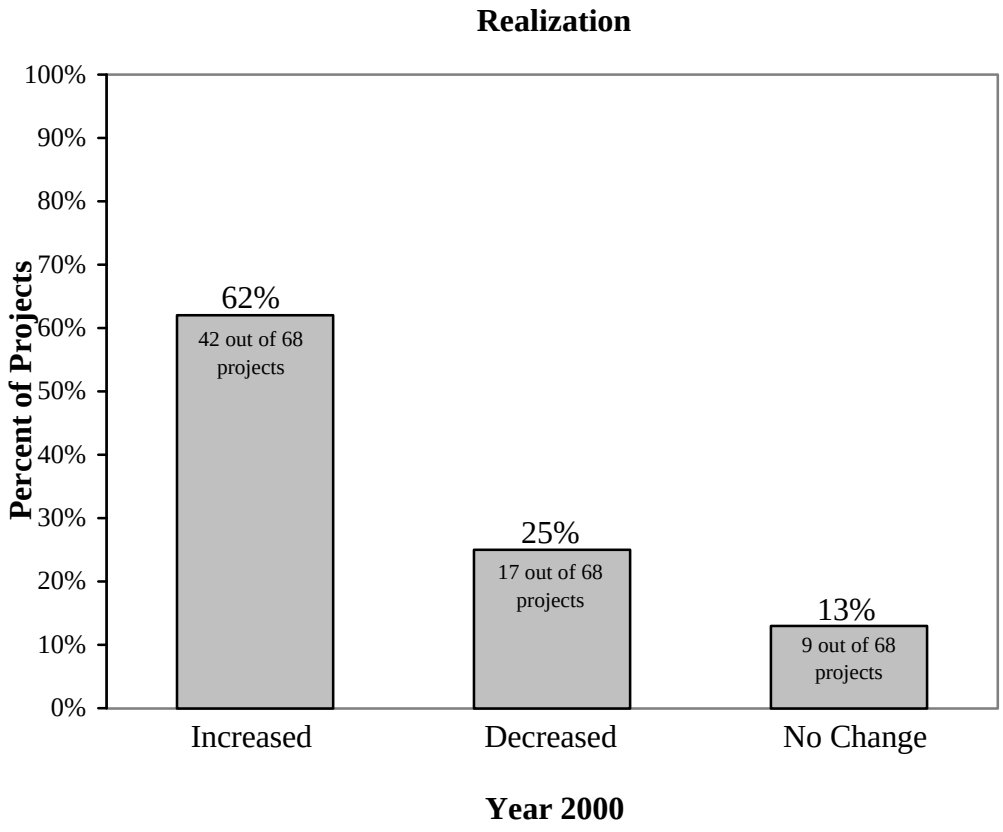

Figure 8. Percent of projects showing increases, decreases, or no change in realization from 1999 to 2000. Data represents 34% (26 out of 77) of the one-way projects processed in 2000.

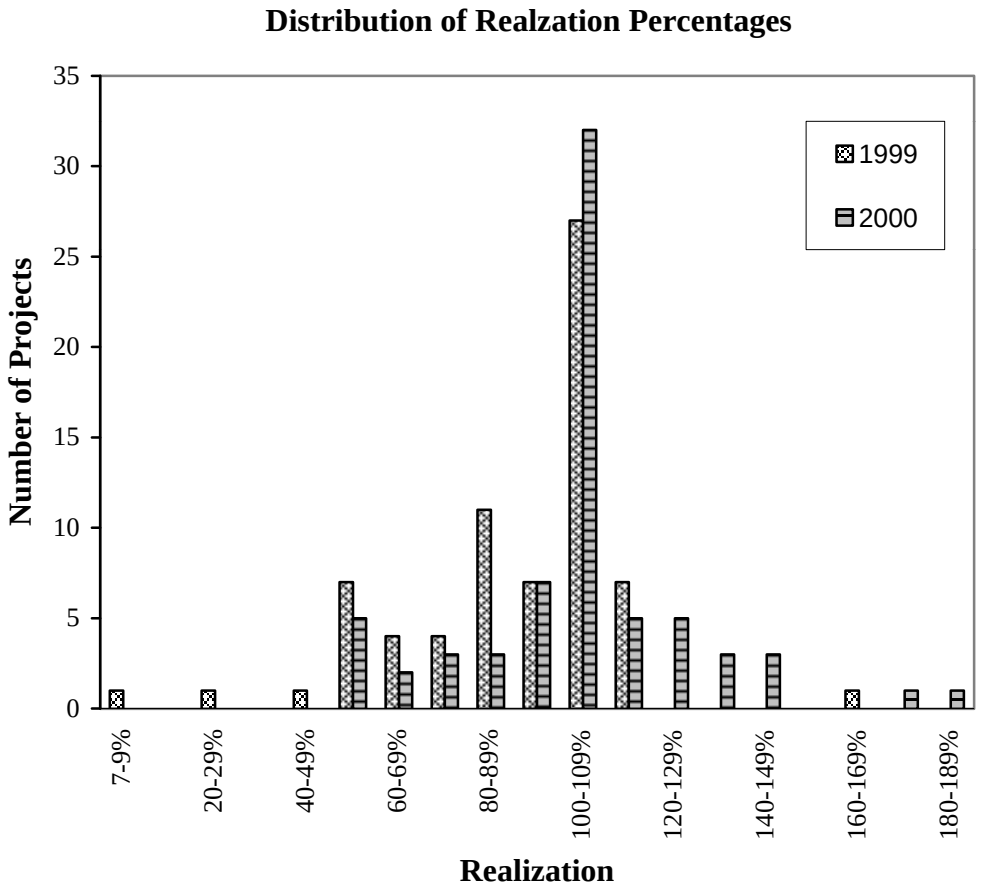

Figure 9. Distribution of realization percentages in 1999 and 2000. Data represents 88% (68 out of 77) of the one-way projects processed in 2000.

APPENDIX C

QUALITY SURVEY AND EMPLOYEE SATISFACTION SURVEYS

Quality Assessment Survey Results	Never	Sometimes	Half the Time	Often	Always
1. Preparers turned in accurate returns.	1		3	2	
2. Preparers turned in complete returns.		1	3	2	
3. Unfinished returns resulted from Preparers receiving incomplete client information.		2	1	3	
4. Inaccurate returns were due to Preparers' carelessness.		5	1		
5. Unfinished returns were due to Preparers "passing the buck" to Reviewers.	1	2	2	1	
6. The mistakes I found during review were non-technical (e.g., grammar).		3	3		
7. The mistakes I found during review were technical.		3		3	
8. I informed Preparers of their mistakes after reviewing their work.	1	2			3

Note: This survey was administered to the Reviewers in the Tax Department. The table represents the frequency with which they observed the corresponding statement occur. Six Reviewers completed this survey.

Reviewer-Level Satisfaction Survey Results	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I know the difference between the one-way process and the regular process.				6
2. I am aware of the objective of the new one-way process.			1	5
3. The new one-way process achieved this objective. (* 2 omitted)		1	1	2
4. I would rather have been working on other types of returns instead of reviewing the new one-way process.		4	2	
5. Reviewing one-way returns helped me improve my technical skills.		3	2	1
6. I believe the one-way process does not need any changes.	1	3	1	1
7. The one-way returns should be chosen more carefully in the next tax season.	1	1	3	1
8. I would like to return back to the regular process in the next tax season.	1	4		1
9. The criteria for including a tax return in the one-way process were appropriate.		1	5	
10. The time spent on reviewing one-way returns was excessive.	1	4	1	
11. Reviewing one-way returns prevented me from working on more complex returns. (* 1 omitted)		2	3	
12. The preparers could have fixed the mistakes I was finding in the reviews if they had conducted better self-checks.			4	2
13. I would recommend that we continue using the one-way process in the next tax season.			3	3

Note: This survey was administered to the Reviewers in the Tax Department. The table represents the nubmer of Reviewers who gave the corresponding rating for the respective questions. Six Reviewers completed the survey; however, a few Reviewers did not give a rating for questions 3 and 11.

Staff-Level Satisfaction Survey Results	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I know the difference between the one-way process and the regular process.				4
2. I am aware of the objective of the new one-way process.			1	3
3. The new one-way process achieved this objective.			4	
4. I would rather have been working on other types of returns instead of the new one-way returns.		1	2	1
5. The one-way process enabled me to work on more difficult tax returns.	1	1	2	
6. The new one-way returns helped me improve my technical skills.	1	3		
7. I believe the one-way process does not need any changes.		2	2	
8. I would like to continue seeing Administrative employees make client photocopies for one-way returns.	3	1		
9. The one-way returns should be chosen more carefully in the next tax season.			4	
10. I would like to continue seeing Administrative employees assign one-way returns.		2	2	
11. I would like to return back to the regular process in the next tax season.		4		
12. The criteria for including a tax return in the one-way process were appropriate. (*1 omitted)			3	
13. I would like to receive information about mistakes I made for the one-way tax returns.			3	1
14. I would recommend that we continue using the one-way process in the next tax season.			4	

Note: This survey was administered to the Preparers in the Tax Department. The table represents the number of Preparers who gave the corresponding rating for the respective questions. Four Preparers completed the survey; however, one Preparer did not give a rating for question 12.

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